

operate the electrical accessories on the ATC and to charge the battery (on models so equipped). The rotor is permanently magnetized.

There are 4 different alternators used among the different models. Some have an outer rotor and others have an inner rotor. The stator coils of the outer rotor type are either attached to the engine or to the alternator cover.

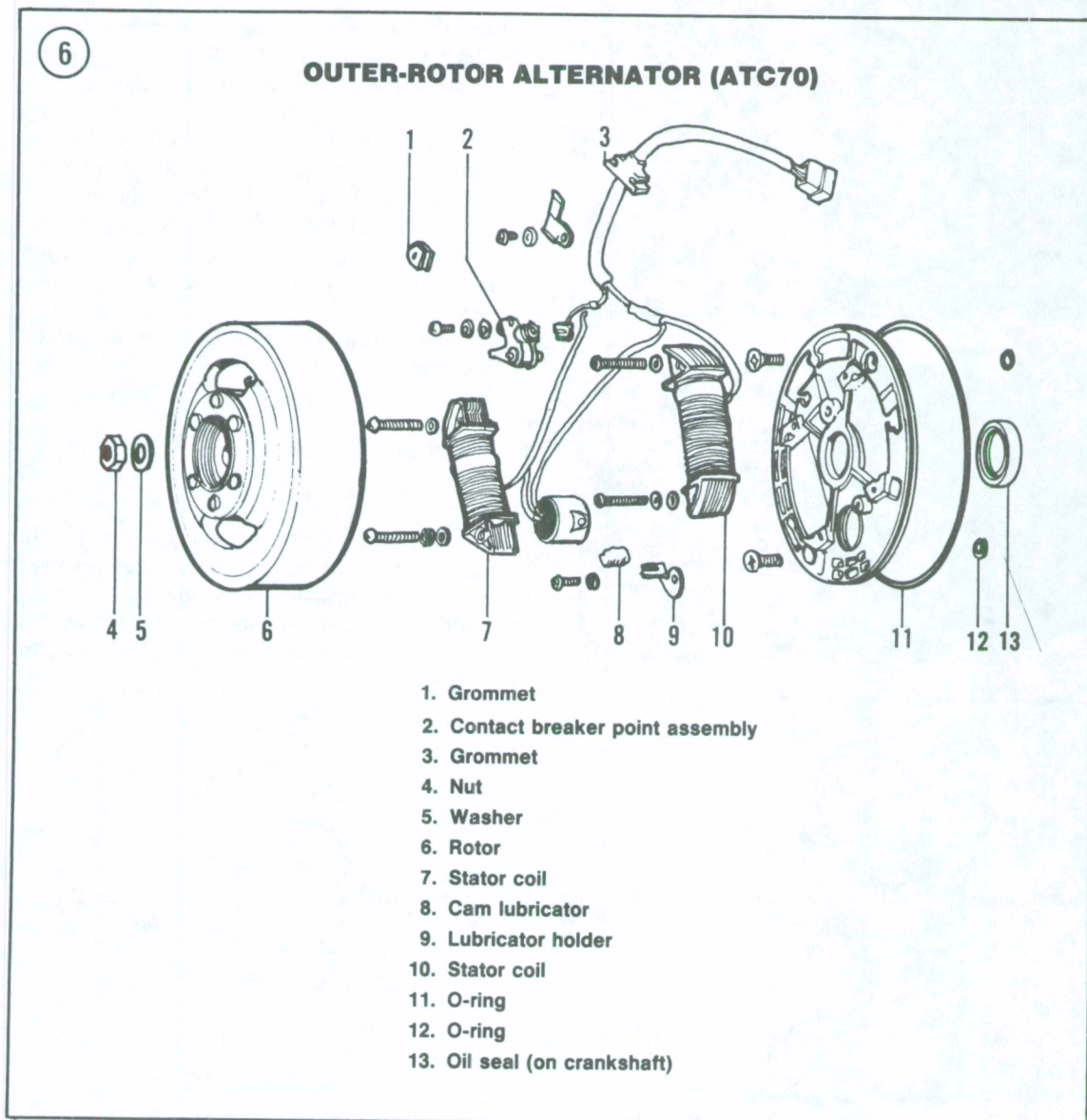
ALTERNATOR (OUTER ROTOR TYPE)

The outer rotor type alternators used among the various models are shown in the following illustrations:

- a. ATC70—Figure 6.
- b. 1981-on ATC110—Figure 7.
- c. ATC125M—Figure 8.

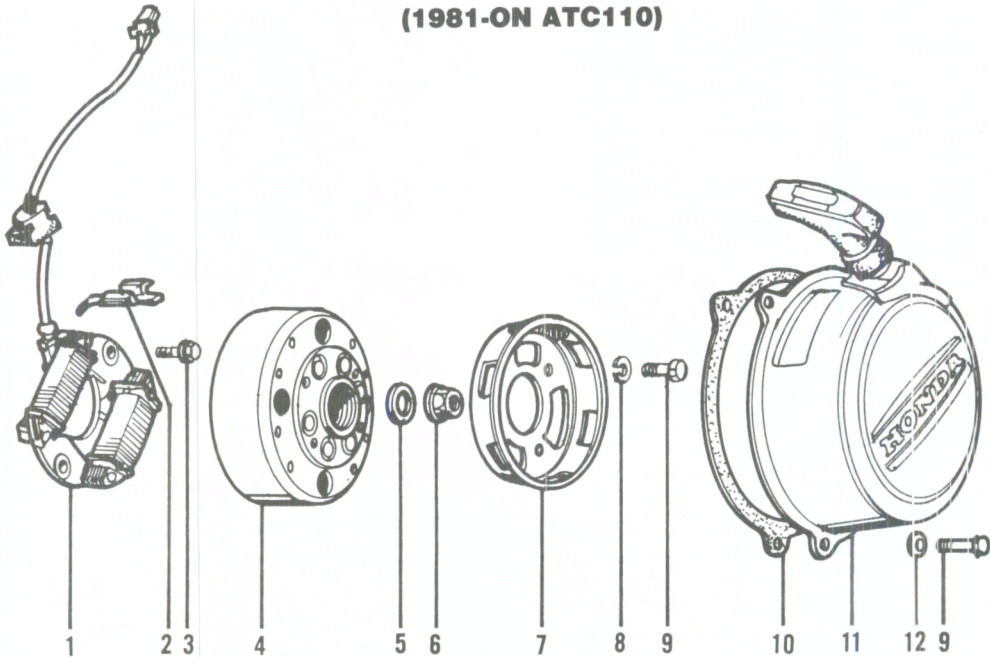
Rotor Removal/Installation (All ATC70, 1981-on ATC110)

The following procedure represents a typical outer rotor removal and installation. Minor variations exist among the different models and years. Pay particular attention to the location of washers, rubber grommets, electrical connectors, etc. Make sure they are installed or attached in the correct location.



7

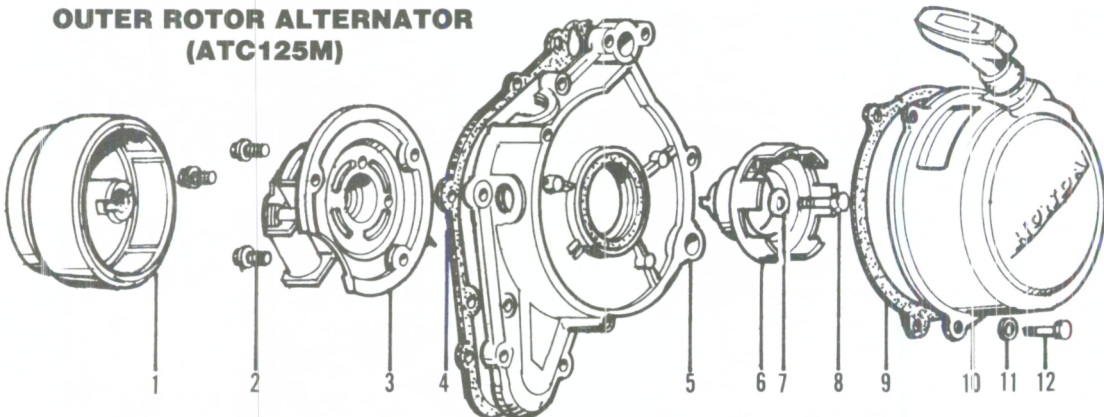
**OUTER ROTOR ALTERNATOR
(1981-ON ATC110)**



- | | |
|--------------------|-----------------------------|
| 1. Stator assembly | 7. Recoil starter pulley |
| 2. Clip | 8. Lockwasher |
| 3. Bolt | 9. Bolt |
| 4. Rotor | 10. Gasket |
| 5. Lockwasher | 11. Recoil starter assembly |
| 6. Rotor nut | 12. Washer |

7

**OUTER ROTOR ALTERNATOR
(ATC125M)**



- | | | |
|--------------------|---------------------------------|-----------------------------|
| 1. Rotor | 5. Left-hand crankcase cover | 9. Gasket |
| 2. Bolt | 6. Recoil starter driven pulley | 10. Recoil starter assembly |
| 3. Stator assembly | 7. Washer | 11. Washer |
| 4. Gasket | 8. Bolt | 12. Bolt |

8

1. Place the ATC on level ground and set the parking brake or block the wheels so the vehicle will not roll in either direction.
2. Remove the seat/rear fender assembly.
3. Remove the fuel tank as described in Chapter Six.
4. Remove the gearshift pedal.
5. Remove the recoil starter assembly as described in Chapter Four.
6. On ATC70 models, remove the bolts securing the left-hand crankcase cover and remove the cover and gasket.
7. Remove the nut (**Figure 9**) securing the rotor.
8. To keep the rotor from turning while removing the nut, install a long screwdriver or drift and prop it against the footpeg assembly as shown in **Figure 10**.

CAUTION

Don't try to remove the rotor without a puller; any attempt to do so will ultimately lead to some form of damage to the engine and/or rotor. Many aftermarket pullers are available from most motorcycle dealers or mail order houses. The cost of one of these pullers is low and it makes an excellent addition to any mechanic's tool box. If you can't buy or borrow one, have a dealer remove the rotor.

9. Screw in a flywheel puller (**Figure 11**) until it stops. Use the following flywheel puller:
 - a. ATC70: Honda flywheel puller part No. 07933-0010000, K & N puller part No. 82-015 or equivalent.
 - b. ATC110: Honda flywheel puller part No. 07733-0010000, K & N puller part No. 82-010 or equivalent.
10. Hold the puller with a wrench and gradually tighten the center bolt (**Figure 12**) until the rotor disengages from the crankshaft.

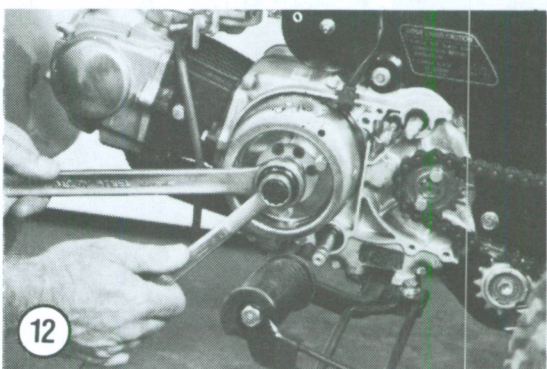
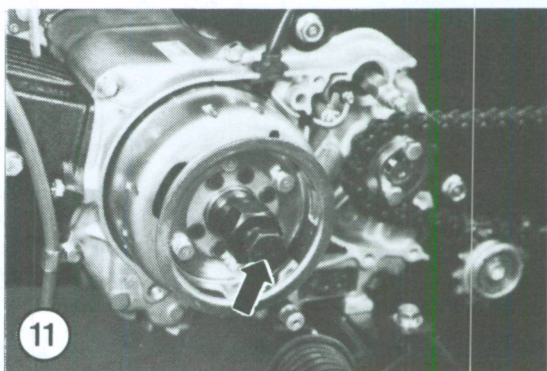
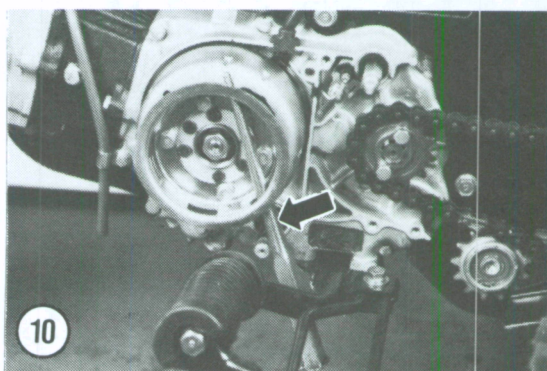
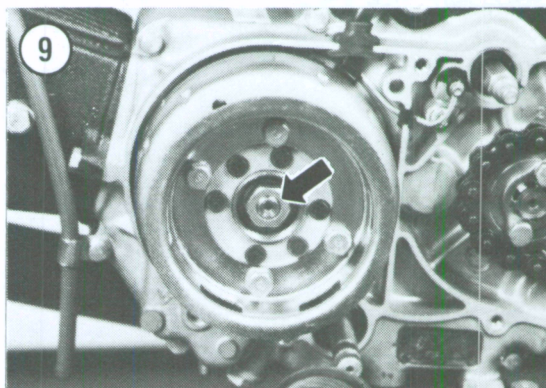
CAUTION

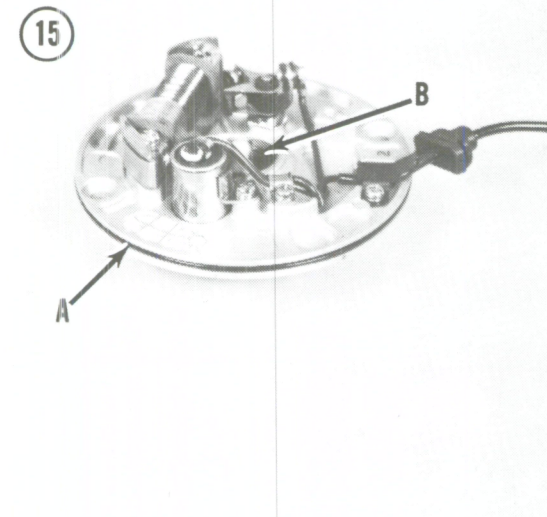
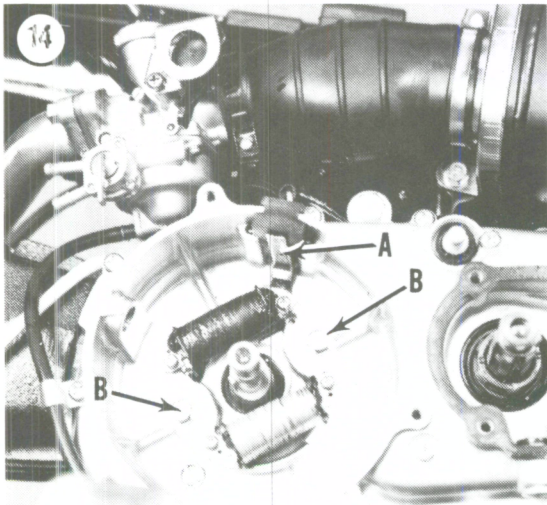
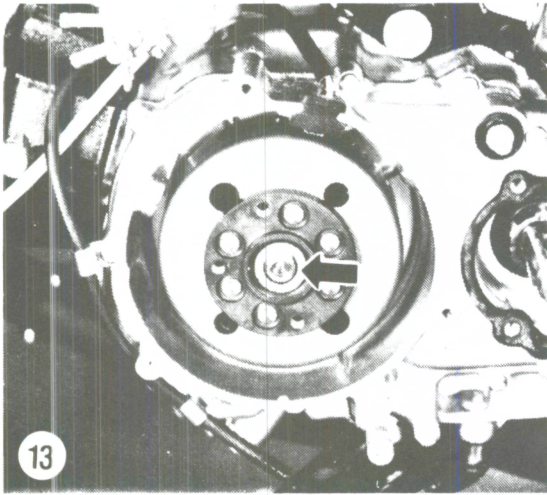
If normal rotor removal attempts fail, do not force the puller as the threads may be stripped out of the rotor causing expensive damage. Take it to a dealer and have it removed.

NOTE

If the rotor is difficult to remove, strike the puller with a hammer a few times. This will usually break it loose. Do not hit the rotor.

11. Remove the rotor and puller. Don't lose the Woodruff key on the crankshaft.



**CAUTION**

Carefully inspect the inside of the rotor for small bolts, washers or other metal "trash" that may have been picked up by the magnets. These small metal bits can cause severe damage to the alternator stator plate components.

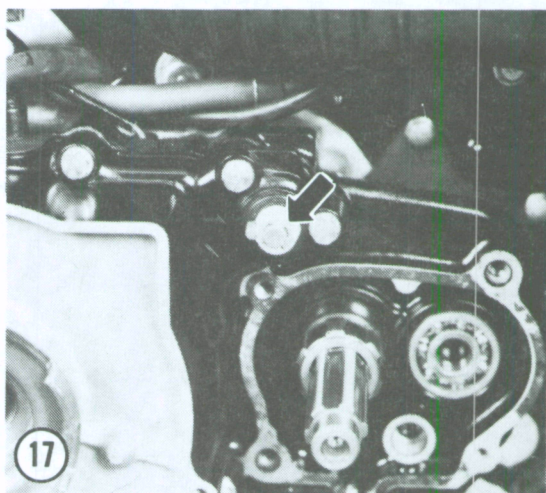
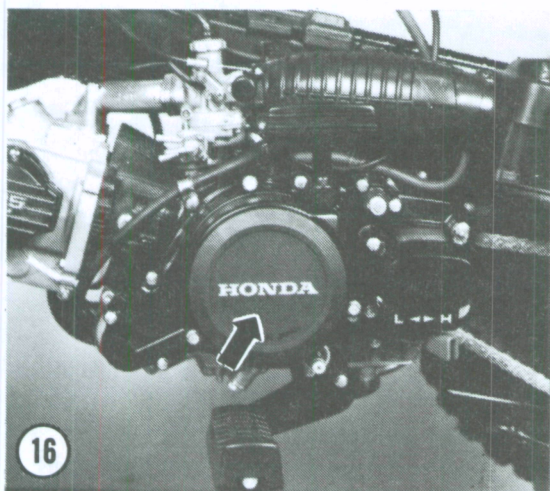
12. Install by reversing these removal steps, noting the following.
13. Make sure the Woodruff key is in place on the crankshaft and align the keyway in the rotor with the key when installing the rotor.
14. On models so equipped, be sure to install the washer (Figure 13) prior to installing the rotor nut. Install the rotor nut.
15. Tighten the rotor nut or bolt to the following torque specifications:
 - a. ATC70: 33-38 N•m (24-27 ft.-lb.).
 - b. ATC110: 60-70 N•m (43-51 ft.-lb.).

**Stator Removal/Installation
(ATC70, 1981-on ATC110)**

1. Remove the alternator rotor as described in this chapter.
2. Disconnect the electrical connector from the alternator stator assembly to the wiring harness.
3. On models so equipped, slide out the clip (A, Figure 14) securing the electrical harness to the crankcase.
4. Remove the bolts (B, Figure 14) securing the stator assembly to the left-hand crankcase.
5. Pull the grommet and electrical harness out of the left-hand crankcase.
6. Remove the stator assembly.
7. Install by reversing these removal steps, noting the following.
8. Make sure the large perimeter O-ring seal (A, Figure 15) and the crankshaft oil seal (B, Figure 15) are in place and in good condition. Replace either if necessary.
9. On models so equipped, install the electrical wire clip and all bolts. Tighten the bolts securely.
10. Route the electrical harness the same way it was before removal.

**Rotor Removal
(ATC125M)**

1. Place the ATC on level ground and set the parking brake.
2. Remove the seat/rear fender assembly.
3. Drain the engine oil as described in Chapter Three.
4. Remove the fuel tank as described in Chapter Six.



5. Remove the gearshift pedal.
6. Remove the recoil starter assembly (Figure 16) as described in Chapter Four.
7. Remove the E-clip (Figure 17) on the neutral indicator and remove the neutral indicator.
8. Remove the bolt, O-ring seal and washer (Figure 18) securing the recoil starter driven pulley and remove the pulley. To keep the driven pulley from turning, hold it with a long screwdriver as shown in Figure 19.
9. Disconnect the electrical connector (Figure 20) from the stator assembly to the wiring harness.
10. Remove the bolts securing the left-hand crankcase cover (A, Figure 21) and remove the cover and gasket. Don't lose the locating dowels.

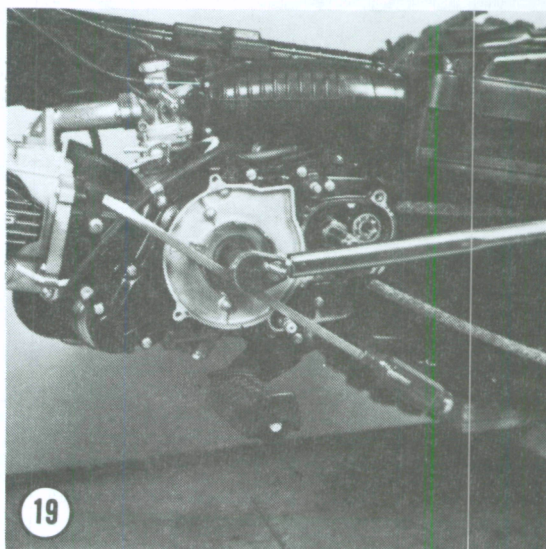
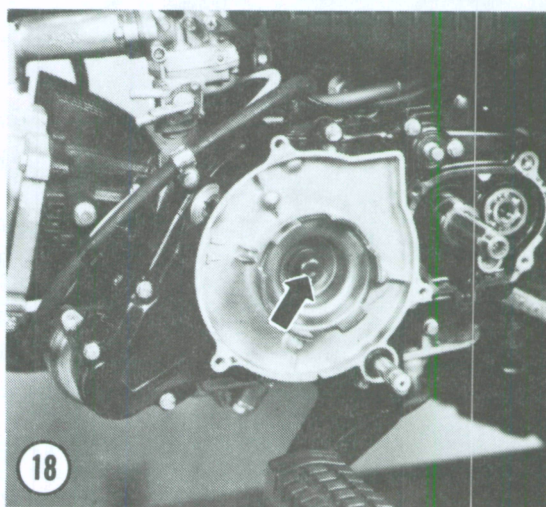
CAUTION

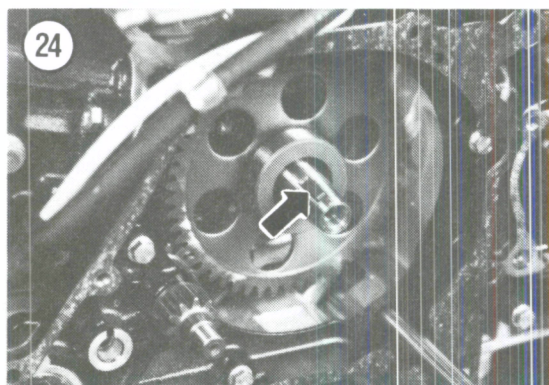
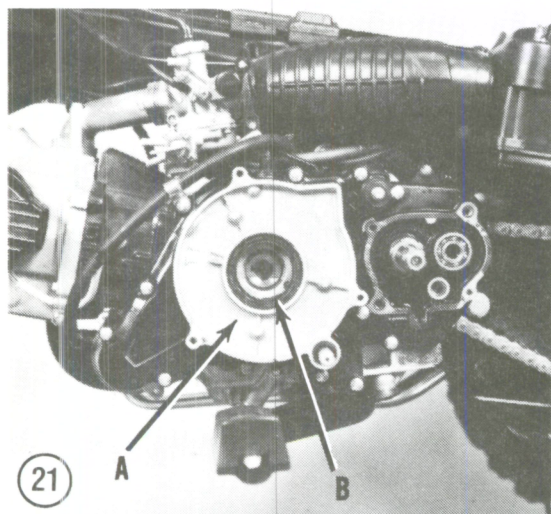
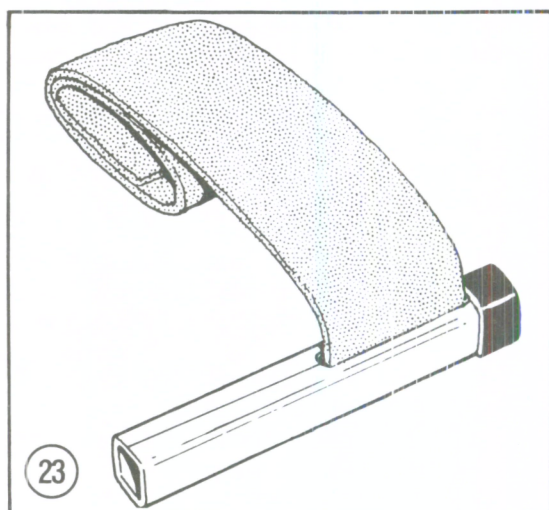
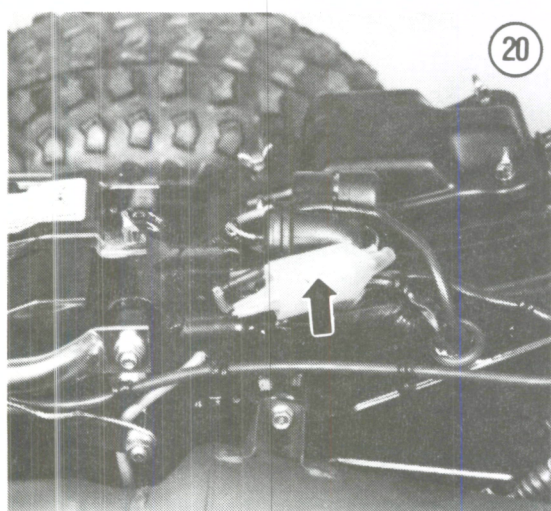
Don't try to remove the rotor without a puller; any attempt to do so will ultimately lead to some form of damage to the engine and/or rotor. Many aftermarket pullers are available from most motorcycle dealers or mail order houses. The cost of one of these pullers is low and it makes an excellent addition to any mechanic's tool box. If you can't buy or borrow one, have a dealer remove the rotor.

11. Screw in a flywheel puller (Figure 22) until it stops. Use Honda flywheel puller part No. 07733-0010000 or equivalent.
12. To prevent the rotor from rotating, hold the rotor with a strap wrench (Figure 23).
13. Using a wrench, gradually tighten the puller until the rotor disengages from the crankshaft.

CAUTION

If normal rotor removal attempts fail, do not force the puller as the threads





may be stripped out of the rotor causing expensive damage. Take it to a dealer and have it removed.

NOTE

If the rotor is difficult to remove, strike the puller with a hammer a few times. This will usually break it loose. Do not hit the rotor.

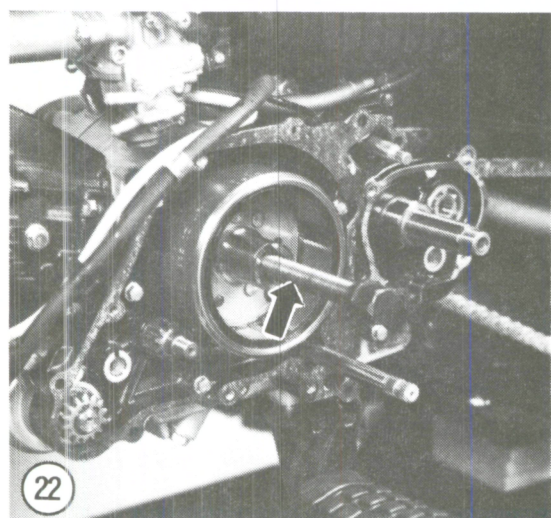
14. Remove the rotor and puller. Don't lose the Woodruff key on the crankshaft.

CAUTION

Carefully inspect the inside of the rotor for small bolts, washers or other metal "trash" that may have been picked up by the magnets. These small metal bits can cause severe damage to the alternator stator plate components.

Rotor Installation (ATC125M)

1. Make sure the Woodruff key (Figure 24) is in place on the crankshaft.



2. Slightly rotate the rotor/starter clutch assembly *clockwise* in order to install the rotor onto the shoulder on the starter driven gear. Align the keyway in the rotor with the Woodruff key when installing the rotor.
3. Make sure the locating dowels are in place and install a new gasket (**Figure 25**).
4. Install the left-hand crankcase cover.
5. Shift the transmission into **NEUTRAL** and install the neutral indicator and the E-clip.
6. Connect the electrical connector from the stator assembly.
7. Apply a light coat of grease to the oil seal (B, **Figure 21**) in the left-hand crankcase cover.
8. Align the flats on the recoil starter driven pulley with the notches in the alternator rotor. Then install the recoil starter driven pulley. Make sure the pulley is properly engaged with the rotor.
9. Install the washer, O-ring seal and the bolt securing the recoil starter driven pulley. Tighten the rotor bolt to 40-45 N•m (29-33 ft.-lb.).
10. To keep the driven pulley from turning, hold it with a long screwdriver as shown in **Figure 19**.

Stator Removal/Installation (ATC125M)

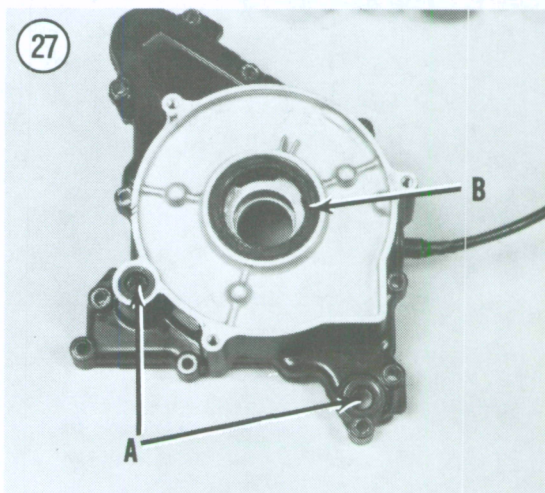
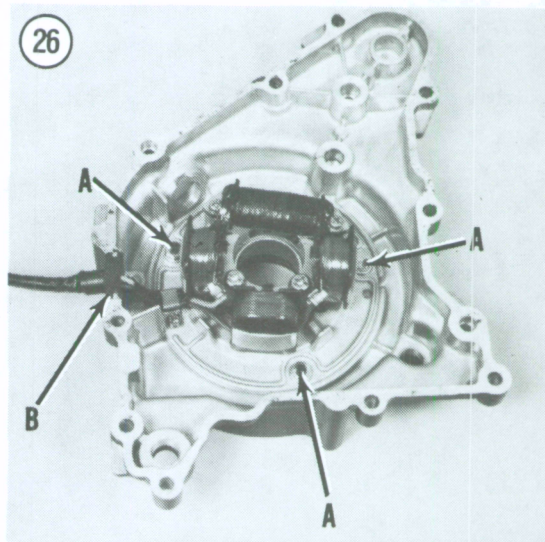
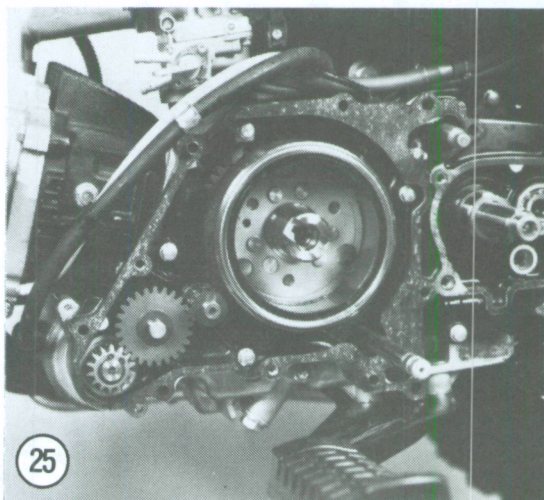
1. Perform Steps 1-10 of *Rotor Removal (ATC125M)* in this chapter.
2. Remove the bolts (A, **Figure 26**) securing the stator assembly to the left-hand crankcase cover.
3. Pull the grommet (B, **Figure 26**) and electrical harness out of the left-hand crankcase cover.
4. Remove the stator assembly.
5. Install by reversing these removal steps, noting the following.
6. Make sure the smaller O-ring seals (A, **Figure 27**) and the crankshaft oil seal (B, **Figure 27**) are in place and in good condition. Replace if necessary.

ALTERNATOR (INNER ROTOR TYPE)

The inner rotor type alternator used on all ATC90 and 1979-1980 ATC110 models is shown in **Figure 28**.

Rotor Removal/Installation

1. Place the ATC on level ground and set the parking brake.
2. Remove the seat/rear fender assembly.
3. Remove the fuel tank as described in Chapter Six.
4. Remove the gearshift pedal.
5. Remove the recoil starter assembly as described in Chapter Four.



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